

# PATENT ABSTRACTS OF JAPAN

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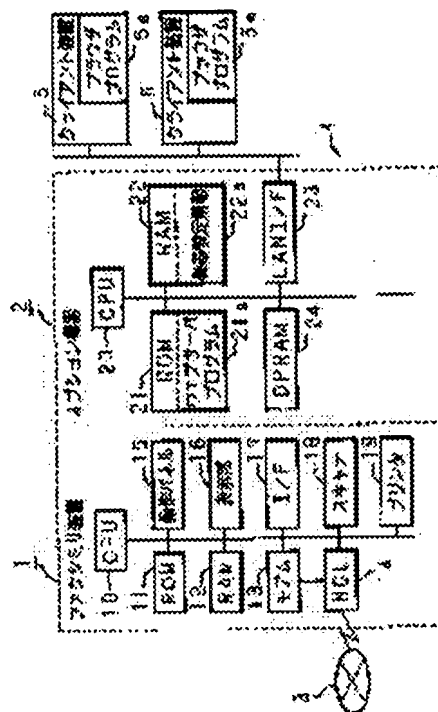
(72)Inventor : TANIMOTO YOSHIFUMI

## (54) COMMUNICATION EQUIPMENT

(57)Abstract:

**PROBLEM TO BE SOLVED:** To provide communication equipment like an MFP capable of instructing a corrective method clearly to a user by showing detailed information on an error cause, etc., concerning the inputted contents of device setting information shown by an HTML form to the user of a client device provided with a browser.

**SOLUTION:** The MFP provided with a web server function judges whether an error is included in the inputted contents of device setting information 22a concerning the communication from the client device 5 utilizing a browser program 5a. In the case that the error is included, the contents of the error is transmitted to the device 5 in the HTML form with the pertinent inputted contents.



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JAPANESE

[JP,2001-186301,A]

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CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD PRIOR ART EFFECT OF THE  
INVENTION TECHNICAL PROBLEM MEANS DESCRIPTION OF DRAWINGS DRAWINGS

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[Translation done.]

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CLAIMS

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[Claim(s)]

[Claim 1] The ~~input screen information of the setting information~~ about a communication link and this ~~setting information is memorized in the format which can be displayed by the browser. In the communication device equipped with the web server function to change this setting information according to the input of said setting information from other equipments using a browser~~ The communication device characterized by having a means to judge whether the contents of an input have an error, and a means to transmit the contents of an error to equipment besides the above in said format with the contents of an applicable input when it judges with there being an error.

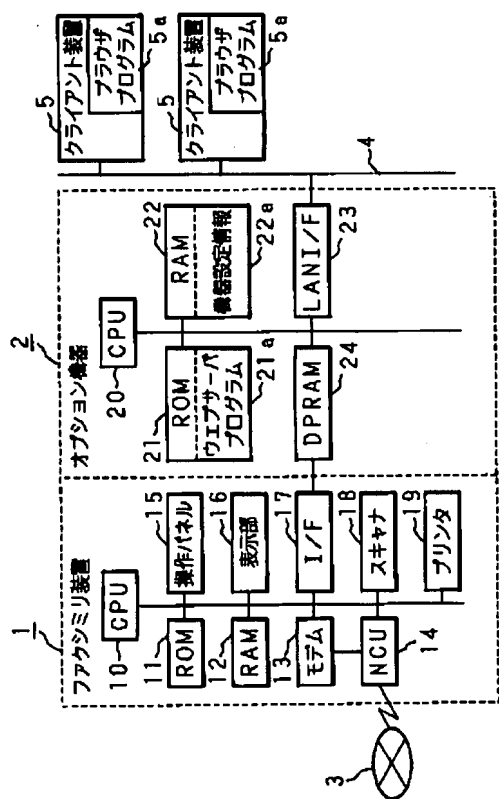
[Claim 2] Said means to transmit is a communication device according to claim 1 currently made that URL which shows the reinput screen information of said setting information should be further transmitted with said contents of an applicable input.

[Claim 3] or [ returning only said contents of an applicable input to the condition before the input of the setting information corresponding to this ] -- or [ or / initializing ] -- or a means to generate said reinput screen information by considering as an inverse video condition and said generated reinput screen information -- said -- others -- the communication device according to claim 2 further equipped with a means to transmit to equipment.

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[Translation done.]

Drawing selection Representative drawing



[Translation done.]



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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[Field of the Invention] About a communication device like MFT (network peripheral device) constituted by attaching the option device which equipped facsimile apparatus with another functions, such as LAN communication facility, this invention is equipped especially with a web server function, and relates to the ~~communication device which can change device setting information from the exterior using a browser.~~

[0002]

[Description of the Prior Art] For example, there are some in which a network I/F board, a network I/F card, etc. which are a connection interface (I/F) to networks, such as LAN, are post-installed according to a specification in an option or a manufacture phase as an option device in facsimile apparatus.

[0003] By attaching such an option device in facsimile apparatus, a function (communication facility different here from facsimile communication facility) other than the function with which facsimile apparatus is originally equipped can be given to facsimile apparatus.

[0004] Therefore, resources, such as a scanner with which facsimile apparatus is equipped, a printer, and a modem, can be used from other communication devices on a network, i.e., it can use as a network peripheral device called MFT (Multi-Functional Peripheral) with functions, such as network facsimile apparatus, network printer equipment, or a network scanner.

[0005] By the way, in addition to the connect function to LAN, MFT which was mentioned above is equipped with a network I/F board with a web server function as an option device, and it may be constituted as a web server in the so-called intranet through LAN. In MFT equipped with such a web server function, the device setting information can be directly changed from the control panel with which it is equipped, and also there are some which can ~~change device setting information from the client equipment on LAN using a browser.~~

[0006] If it is in such MFT, said input screen is displayed on the screen of client equipment by transmitting the input screen of device setting information ~~in the HTML format~~ which can be displayed by the browser ~~according to assignment of predetermined URL of client equipment.~~ If it transmits after the user of client equipment inputs the applicable item of device setting information on the displayed input screen (or modification etc.), according to this, MFT will perform modification processing of the device setting information which corresponds based on the contents of the inputted item.

[0007]

[Problem(s) to be Solved by the Invention] However, although said input screen is displayed on the screen of client equipment by ~~transmitting the screen of the HTML format~~ of the purport of an error when it has been recognized that the contents of the input item received from client equipment have an error, if it is in MFT of the \*\*\*\* former mentioned above The reason of the detailed error etc. was not included but the user of client equipment had the problem that it did not understand how I may cope with it in such an error screen.

[0008] Moreover, although the carbon button which returns to a front screen was generally prepared for

the tool bar at the browser with which client equipment is equipped, when it returned from the \*\*\*\* error screen which pushed and mentioned such a carbon button above to an input screen, all the items of device setting information are in the condition of having been cleared or initialized, and there was a problem of forcing the user of client equipment the input from 1.

[0009] This invention is made in view of this situation, and it judges whether the contents of an input of the device setting information about the communication link from client equipment have an error. By transmitting the contents of an error to client equipment in a HTML format with the corresponding contents of an input, when there is an error Detailed information, such as a reason of a concrete error, can be shown to a user, and it aims at offering the communication device like MFT which can teach a solution clearly to a user by this.

[0010]

[Means for Solving the Problem] The communication device concerning the 1st invention is ~~memorized in the format which can display the input screen information of the setting information about a communication link, and this setting information by the browser.~~ In the communication device equipped with the web server function to change this setting information according to the input of said setting information from other equipments using a browser It is characterized by having a means to judge whether the contents of an input have an error, and a means to transmit the contents of an error to equipment besides the above in said format with the contents of an applicable input when it judges with there being an error.

[0011] The communication device concerning the 2nd invention is characterized by having made said means to ~~transmit that URL~~ which shows the reinput screen information of ~~said setting information~~ ~~should be further transmitted with said contents of an applicable input in the communication device of the 1st invention.~~

[0012] or [ that the communication device concerning the 3rd invention returns only said contents of an applicable input to the condition before the input of the setting information corresponding to this in the communication device of the 2nd invention ] -- or [ or / initializing ] -- or a means generate said reinput screen information by considering as an inverse-video condition and said generated reinput screen information -- said -- others -- it is characterized by to have further a means transmit to equipment.

[0013] In the 1st invention, it ~~memorizes in the HTML format which can display the input screen information of the setting information (device setting information) about a communication link, and this device setting information by the browser.~~ It is in the communication device equipped with the web server function to perform modification processing of the device setting information which corresponds according to the input of the device setting information from other equipments, such as client equipment using a browser. Since it considered as the ~~configuration~~ which transmits the contents of an error to equipment besides the above in a HTML format with the corresponding contents of an input when it judged whether the contents of an input have an error from equipment besides the above and judged with there being an error Detailed information, such as a reason of a concrete error, can be shown to the user of equipment besides the above, and a solution can be clearly taught to a user by this.

[0014] Since it considered as the configuration which transmits URL which shows reinput screen information in the 2nd invention in addition to the contents of an input transmitted to equipment besides the above with the contents of an error to equipment besides the above So that no items of device setting information may be in the condition of having been cleared or initialized, by use of the carbon button which returns to the so-called screen before the browser, generally has URL as a link place for returning from an error screen to the input screen of the condition after an input certainly can be shown, and a user is not forced the input from 1.

[0015] Or said reinput screen information is generated by considering as an inverse video condition. or [ returning only what had an error in the contents of an input to the condition before the input of device setting information in the 3rd invention ] -- or [ or / initializing ] -- Since it considered as the configuration which transmits a generation result to equipment besides the above, said URL to the reinput screen information made into a link place A user can perform the input for correction immediately by initializing by carrying out clearing an input item with an error etc., and



returning to the condition before an input, or returning to initial value etc., or making it become inverse video. That is, things other than what had an error in the contents of an input on this occasion can mitigate the effort of reinput to these items by leaving with the condition of having been inputted.

[0016]

[Embodiment of the Invention] This invention is explained in full detail based on the drawing in which the gestalt of the operation is shown below. Drawing 1 is the block diagram showing the configuration of MFT as a communication device concerning this invention. In drawing 1, 1 is facsimile apparatus which constitutes MFT and 2 is option devices, such as a network I/F board.

[0017] With its simple substance which does not contain the option device 2, facsimile apparatus 1 has composition like the common facsimile apparatus which has a copy function, and is equipped with ROM11, RAM12 and the modem 13 which were connected to CPU10 and this CPU10 through the bus, NCU14, a control panel 15, a display 16, I/F17, the scanner 18, and the printer 19.

[0018] CPU10 performs various processings required for the actuation based on the computer program memorized by ROM11.

[0019] ROM11 has memorized beforehand various computer programs required for actuation of CPU10.

[0020] RAM12 memorizes temporary data generated at the time of activation of the computer program by CPU10.

[0021] The modem 13 consists of facsimile modems in which facsimile communication is possible. Moreover, the modem 13 is directly connected with NCU (Network Control Unit)14 similarly connected to the bus. NCU14 is hardware which performs closing of a circuit with the dial-up line network (PSTN) 3 of an analog, and actuation of disconnection, and connects a modem 13 with the dial-up line network 3 if needed. In addition, you may make it connect with a digital channel network (ISDN) by having an interface for ISDN.

[0022] The control panel 15 is equipped with various keys, such as a letter key required in order to operate MFT as a communication device concerning this invention, a ten key, a compaction dialing key, and an one-touch dialing key.

[0023] A display 16 is equipped with displays, such as a liquid crystal display (LCD) or a CRT display, and displays the operating state of CPU10 etc. In addition, it is also possible by replacing with this and having the display of a touch panel method to substitute for some or all of a control panel 15 that was mentioned above.

[0024] A scanner 18 reads a manuscript using CCD etc. and outputs the dot image data changed into monochrome binary one.

[0025] Printers 19 are printer equipments, such as an electrophotography method, and print out the image data read with the scanner 18 mentioned above, the image data which carried out facsimile reception.

[0026] The option device 2 attached in the constituted facsimile apparatus 1 is tied to proper I/F17 connected to the bus of facsimile apparatus 1 through the dual port RAM (DPRAM) 24 with which it is equipped like the above.

[0027] The option device 2 is equipped with ROM21, RAM22 and LANI/F23 which were connected to CPU20 and this CPU20 through the bus, and above-mentioned DPRAM24.

[0028] CPU20 performs various processings required for the actuation based on the computer program memorized by ROM21.

[0029] ROM21 has memorized beforehand various computer programs required for the actuation containing web server program 21a of CPU20. In addition, in this invention, although it has considered as the configuration which equips the option device 2 side with web server program 21a in order to raise the versatility by the side of facsimile apparatus 1, it is also possible to consider as the configuration with which a facsimile apparatus 1 side is made to be equipped.

[0030] While RAM22 memorizes temporary data generated at the time of activation of the computer program by CPU20, it has memorized device setting information 22a about the communication link of MFT as a communication device concerning this invention. In addition, in this invention, although

considered as the configuration which equips the option device 2 side with device setting information 22a, it is also possible to consider as the configuration with which a facsimile apparatus 1 side is made to be equipped.

[0031] LANI/F23 is an interface for connecting the option device 2 to LAN4.

[0032] The communication facility to LAN4 is given by the option device 2 attached in this facsimile apparatus 1, and also the facsimile apparatus 1 of the gestalt of this operation [ like / the above ] is constituted as MFT which functions as a web server which used LAN4 by web server program 21a memorized by ROM21, although it has the manuscript reading function, the facsimile communication facility, and the image-data list function as common facsimile apparatus with a copy function.

[0033] Transfer of the data containing an image data is specifically possible among the client equipments 5 and 5 on LAN4. By this Can use now the facsimile apparatus 1 containing the option device 2 as MFT (network peripheral device) equipped with functions, such as network facsimile apparatus, network printer equipment, or a network scanner, and also ~~Transfer of the data of a HTML format~~ is possible among the client equipments 5 and 5 equipped with browser program 5a, respectively.

[0034] Moreover, MFT as a communication device concerning this invention can change device setting information 22a also ~~from client equipment 5~~ through LAN4 while being able to change now device setting information 22a memorized by RAM22 when a ~~user operates a control panel 15~~.

[0035] In changing device setting information 22a from client equipment 5, client equipment 5 ~~transmits URL for displaying the input screen of device setting information 22a using browser program 5a to LAN4, and transmits the data of the input screen of the HTML format of having memorized MFT which received this URL to RAM22 to LAN4~~. Client equipment 5 inputs a change request suitably on the input screen displayed on the display of self-equipment, and transmits an input result to LAN4. An input and a display with client equipment 5 are performed by such gestalt. In addition, since such processing is performed by CPU20 of the option device 2 in the gestalt of this operation, it explains the contents of processing to a detail below. However, it is also possible to perform CPU10 of facsimile apparatus 1 depending on a configuration.

[0036] Drawing 2 is a flow chart which indicates the contents of processing with client equipment 5 to be CPU20 of MFT as a communication device concerning this invention accompanying modification of device setting information 22a, and the mimetic diagram in which the mimetic diagram in which drawing 3 shows an example of a device setting input screen, and drawing 4 show an example of an error screen, and drawing 5 are the mimetic diagrams showing an example of a reinput screen.

[0037] First, client equipment 5 inputs URL of a device setting input screen using browser program 5a, and it specifies by transmitting to MFT (step 1), and ~~MFT reads the data of the device setting input screen of a HTML format from RAM22 based on specified URL, and transmits this to client equipment 5 (step 2)~~.

[0038] Client equipment 5 displays ~~this on the display by~~ receiving the data of the device setting input screen of a HTML format from MFT (step 3: refer to drawing 3 ). In addition, it is shown in the device setting input screen in drawing 3 as the example as a "user setting" screen of ~~user ID, a user password, a user name, user classification~~, etc. Here, it is in the condition of adding a user newly, and as user ID and a user password, like illustration, the constraint is set up so that it may be inputted by the half-width character.

[0039] As shown in drawing 3 , here the user of client equipment 5 The "Japanese alphabet" is inputted into the item of user ID in the displayed device setting input screen. Input nothing into the item of a user password, but "Murata machine incorporated company" is inputted into the item of a user name. It follows on performing the input to each item for modification by choosing the "general user" of initial setting as the item of the user classification made into the pulldown type. Client equipment 5 transmits input to MFT by client equipment's 5 receiving input (step 4), and performing actuation in which a user pushes the registration carbon button in the screen lower left (step 5).

[0040] It judges whether MFT checks the contents of the input received from client equipment 5 based on a predetermined constraint which is set as the device setting input screen mentioned above (step 6),

and has an error (step 7). The constraint is not fulfilled, namely, when there is an error, the data of the error screen which specified the link to an error part and a reinput screen are generated in a HTML format, and a generation result is transmitted to client equipment 5 (step 8).

[0041] Client equipment 5 displays this on the display by receiving the data of the error screen of a HTML format from MFT (step 9: refer to drawing 4 ). In addition, while it is shown in the error screen in drawing 4 that input had an error, saying, "The error was in the item by which a notes setup was carried out" "full-width character (\*\*)" is inputted into the item of user ID so that what may show whether it was an error (error) about each item. "password (\*\*)" is not entered into" and the item of a user password. It is displayed as ". Furthermore, the link to the reinput screen shown with the underline to the lower part center section "It returns to a setting screen" is shown in the error screen in drawing 4 . Thus, when the user of client equipment 5 looks at the error screen where the contents of an error are shown in the detail shows easily how it should correct.

[0042] And when client equipment 5 carries out selection actuation of the character string part of "returning to a setting screen", URL of a reinput screen is specified (step 10) ~~(transmission)~~ With the data which carried out the cache to RAM22 in step 2 based on specified URL, MFT reads the data of a device setting input screen from RAM22, generates the reinput screen of a HTML format, and transmits this to client equipment 5 (step 11), and the processing from step 3 is henceforth repeated like [ screen / reinput ] a device setting input screen.

[0043] In addition, on the display, the data of the reinput screen of the HTML format which client equipment 5 received from MFT are displayed, as shown in drawing 5 . Namely, the contents of the item of the user ID which had an error in input, and a user password are in the condition of having been initialized and cleared. However, it may be made to carry out the inverse video of this, with input left. Anyway, what is necessary is just to come to make promptly the input or modification by the user in the corresponding item. On the other hand, the contents of each item of the user name which did not have an error in input, and user classification are not initialized, but they are constituted so that the information which the user inputted may be held.

[0044] On the other hand, when there is no error in input in step 7, modification processing of device setting information 22a memorized by RAM22 based on input is performed (step 12), and this processing is ended.

[0045]

[Effect of the Invention] In the communication device applied to this invention as explained in full detail above ~~It memorizes in the HTML format which can display the input screen information of the setting information (device setting information) about a communication link, and this device setting information by the browser. It is in the communication device equipped with the web server function to perform modification processing of the device setting information which corresponds according to the input of the device setting information from other equipments, such as client equipment using a browser.~~ Since it is considered as the configuration which transmits the contents of an error to equipment besides the above in a HTML format with the corresponding contents of an input when it judged whether the contents of an input have an error from equipment besides the above and judged with there being an error Detailed information, such as a reason of a concrete error, can be shown to the user of equipment besides the above, and a solution can be clearly taught to a user by this.

[0046] Moreover, since it is considered as the configuration which transmits URL which shows reinput screen information with the contents of an error in addition to the contents of an input transmitted to equipment besides the above to equipment besides the above So that no items of device setting information may be in the condition of having been cleared or initialized, by use of the carbon button which returns to the so-called screen before the browser generally has URL as a link place for returning from an error screen to the input screen of the condition after an input certainly can be shown, and a user is not forced the input from 1.

[0047] Or said reinput screen information is generated by considering as an inverse video condition. or [ furthermore, / returning only what had an error in the contents of an input to the condition before the input of device setting information ] -- or [ or / initializing ] -- Since it is considered as the configuration

which transmits a generation result to equipment besides the above, said URL to the reinput screen information made into a link place A user can perform the input for correction immediately by initializing by carrying out clearing an input item with an error etc., and returning to the condition before an input, or returning to initial value etc., or making it become inverse video. That is, this invention does the outstanding effectiveness so -- things other than what had an error in the contents of an input on this occasion can mitigate the effort of reinput to these items by leaving with the condition of having been inputted.

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JAPANESE

[JP,2001-186301,A]

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DESCRIPTION OF DRAWINGS

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[Brief Description of the Drawings]

[Drawing 1] It is the block diagram showing the configuration of MFT as a communication device concerning this invention.

[Drawing 2] It is the flow chart which indicates the contents of processing with client equipment to be CPU of MFT as a communication device concerning this invention accompanying modification of device setting information.

[Drawing 3] It is the mimetic diagram showing an example of a device setting input screen.

[Drawing 4] It is the mimetic diagram showing an example of an error screen.

[Drawing 5] It is the mimetic diagram showing an example of a reinput screen.

[Description of Notations]

1 Facsimile Apparatus

2 Option Device

5 Client Equipment

5a Browser program

20 CPU

21 ROM

21a Web server program

22 RAM

22a Device setting information

23 LAN/F

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PRIOR ART

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[Description of the Prior Art] For example, there are some in which a network I/F board, a network I/F card, etc. which are a connection interface (I/F) to networks, such as LAN, are post-installed according to a specification in an option or a manufacture phase as an option device in facsimile apparatus.

[0003] By attaching such an option device in facsimile apparatus, a function (communication facility different here from facsimile communication facility) other than the function with which facsimile apparatus is originally equipped can be given to facsimile apparatus.

[0004] Therefore, resources, such as a scanner with which facsimile apparatus is equipped, a printer, and a modem, can be used from other communication devices on a network, i.e., it can use as a network peripheral device called MFT (Multi-Functional Peripheral) with functions, such as network facsimile apparatus, network printer equipment, or a network scanner.

[0005] By the way, in addition to the connect function to LAN, MFT which was mentioned above is equipped with a network I/F board with a web server function as an option device, and it may be constituted as a web server in the so-called intranet through LAN. In MFT equipped with such a web server function, the device setting information can be directly changed from the control panel with which it is equipped, and also there are some which can change device setting information from the client equipment on LAN using a browser.

[0006] If it is in such MFT, said input screen is displayed on the screen of client equipment by transmitting the input screen of device setting information in the HTML format which can be displayed by the browser according to assignment of predetermined URL of client equipment. If it transmits after the user of client equipment inputs the applicable item of device setting information on the displayed input screen (or modification etc.), according to this, MFT will perform modification processing of the device setting information which corresponds based on the contents of the inputted item.

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